In the Claims

Please replace all prior versions, and listings, of claims in the application with the following list of claims:

1. – 7. (Cancelled)

8. (New) A method for *in vitro* culture of human hematopoietic progenitor cells comprising:

introducing an amount of hematopoietic progenitor cells into a porous, solid matrix having interconnected pores of a pore size sufficient to permit said cells to grow throughout the matrix, and

culturing said cells in an environment that is free of inoculated stromal cells, stromal cell conditioned medium, and exogenously added hematopoietic growth factors that promote hematopoietic cell maintenance, expansion and/or differentiation, other than serum, for at least one week with a weekly media change,

wherein the porous, solid matrix is a unitary microstructure, and wherein the in vitro culture results in an increase in the amount of hematopoietic progenitor cells relative to the amount introduced into said porous, solid matrix.

9. (New) The method of claim 8, wherein the cells are harvested after a one week culture.

10. (New) The method of claim 8, wherein the porous, solid matrix is a metal-coated reticulated open cell foam of carbon containing material.

11. (New) The method of claim 9, wherein the porous, solid matrix is a metal-coated reticulated open cell foam of carbon containing material.

12. (New) The method of claim 10, wherein the metal is tantalum.

13. (New) The method of claim 11, wherein the metal is tantalum.

14. (New) The method of claim 12, wherein the matrix is further coated with fibronectin.

15. (New) The method of claim 13, wherein the matrix is further coated with fibronectin.

16. (New) The method of claim 12, wherein the hematopoietic progenitor cells are CD34+ cells.

17. (New) The method of claim 13, wherein the hematopoietic progenitor cells are CD34+ cells.

18. (New) The method of claim 8, wherein the environment is free of interleukins 3, 6 and 11, stem cell ligand and FLT/FLK ligand growth factors.

19. (New) The method of claim 8, wherein the environment is free of hematopoietic growth factors.

20. (New) The method of claim 8, further comprising after said culturing step, harvesting hematopoietic cells.

21. (New) The method of claim 8, wherein the porous, solid matrix is an open cell porous matrix having a percent open space of at least 75%.

22. (New) The method of claim 8, wherein the porous, solid matrix has pores defined by interconnecting ligaments having a diameter at midpoint, on average, of less than 150μm.

23. (New) A method for *in vitro* culture of human hematopoietic progenitor cells comprising:

introducing an amount of hematopoietic progenitor cells into a porous, solid matrix having interconnected pores of a pore size sufficient to permit said cells to grow throughout the matrix,

culturing said cells in an environment that is free of inoculated stromal cells, stromal cell conditioned medium, and exogenously added hematopoietic growth factors that promote hematopoietic cell maintenance, expansion and/or differentiation, other than serum, for one week without a media change, and

harvesting cells,

wherein the porous, solid matrix is a unitary microstructure,

wherein the porous, solid matrix is coated with tantalum and fibronectin, and

wherein the hematopoietic progenitor cells are CD34+ cells.

24. (New) The method of claim 23, wherein the environment is free of interleukins 3, 6 and 11, stem cell ligand and FLT/FLK ligand growth factors.

25. (New) The method of claim 23, wherein the environment is free of hematopoietic growth factors.

26. (New) The method of claim 23, wherein the porous, solid matrix is an open cell porous matrix having a percent open space of at least 75%.

27. (New) The method of claim 23, wherein the porous, solid matrix has pores defined by interconnecting ligaments having a diameter at midpoint, on average, of less than 150μm.